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(54) Torch

(57) Two casings 10 and 12 housing a pair of batteries 16 threadably engage one another so that relative rotation of the two casings causes relative translational movement of the casings along the axis of rotation. This causes a disc 36 to either make or break contact with a tab 37 to switch a light bulb 20 ON or OFF. An O ring seal 42 is provided between the two casings to prevent water from entering the torch thus allowing the torch to be used underwater.

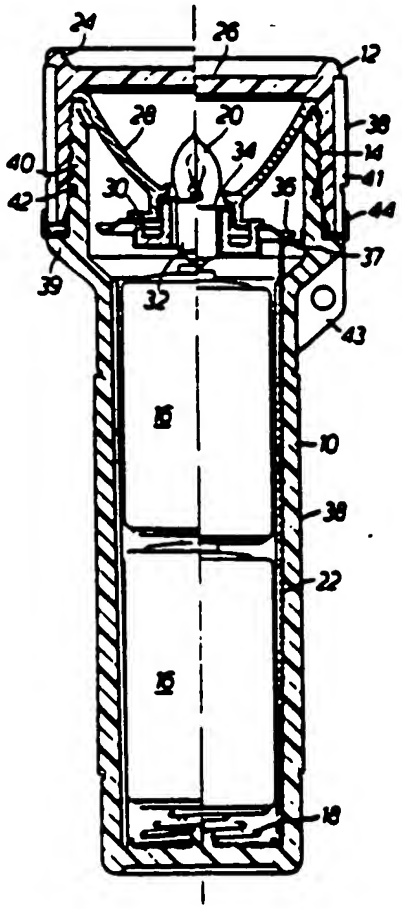

FIG. 1.

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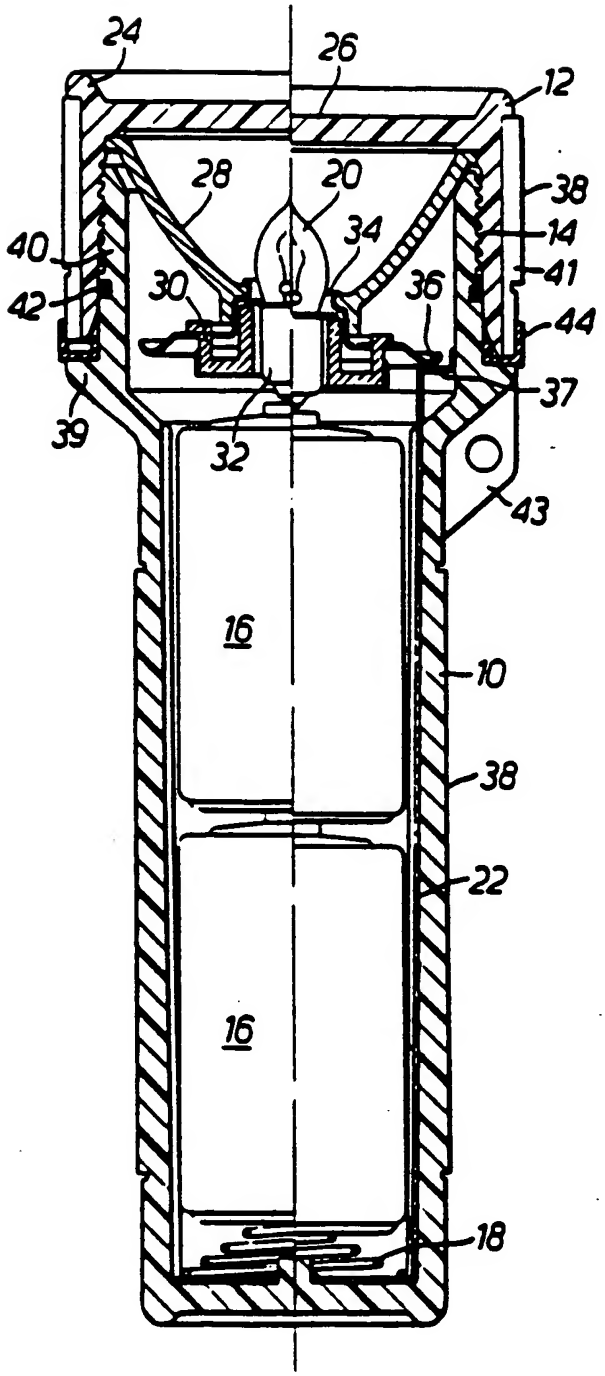

FIG. 1.

SPECIFICATION

Torch

The present invention relates to electric torches.

According to the present invention an electric torch includes a case consisting of two components which are capable of relative movement to switch the torch ON and OFF and a seal between the two components for protecting a bulb and batteries within the case from ambient moisture.

The two components are preferably large enough for a user to be able to readily grasp both parts to effect the relative movement. Such a torch may be operated by a person wearing cumbersome protective clothing, for instance a diver with gloves, and there is no danger of the torch accidentally being knocked ON or OFF. In addition, the torch is able to operate in conditions where the ambient surroundings have a high moisture content without any water entering the internal components and thereby affecting the working of the torch.

Thus the torch is particularly useful in underwater locations.

Advantageously the two components of the torch are made of plastics material.

There may also be a protective skirt surrounding the torch and covering the join between the first and second parts both in the ON and OFF position.

The invention may be carried into practice in various ways but one embodiment will now be described by way of example with reference to the accompanying drawing which is a longitudinal section through the torch.

The torch shown comprises a lower tubular casing constituting a handle 10 and an open-ended cylindrical casing 12 which threadably engage each other, as shown at 14.

The right and left hand sides respectively of the section show the casings 10 and 12 in positions in which the torch is ON and OFF. The torch is switched on and off by relatively rotating the casings 12 and 10 on the threads 14 to cause relative axial movement.

The lower part of the casing 10 houses two batteries 16 which are biased upwardly by a spring 18 so that the central contact of the upper battery contacts the control contact of a light bulb 20. The spring 18 also acts as a contact against the case of the lower battery and connects to the top of the torch by a copper strip 22.

The casing 12 is transparent and has a recessed front window 26 protected by a shoulder 24.

A reflector 28 is secured behind the rim of the window 26 and carries a copper contact disc 36 around the edge of a central bulb hole. The disc 36 in turn carries a holder 30 for the bulb 20 with the bulb stem in contact with the disc 36.

When the casing 12 is screwed into the ON position the disc 36 makes contact with a tab 37 at the top of the copper strip 22 and completes a circuit through the batteries and the bulb. The torch is switched OFF by rotating the casings 10 and 12 relatively to one another to cause the disc 36 to disengage from the tab 37 and open the circuit.

The casings 10 and 12 and the reflector 28 are moulded of plastics material so that the torch is robust and cheap to manufacture.

The casings have knarled cylindrical surfaces 38 for ease of operation.

The lower casing 10 has an annular groove 40 below the threads and that houses an O ring 42 which cooperates with a smooth skirt below the thread on the upper casing 12 to prevent water from entering the interior of the torch. A further seal is provided by a U-section plastics skirt 44 sealed around an external shoulder 39 on the lower casing and making a sliding seal with an internal knarled collar 41 around the casing 12 in both the ON and OFF positions.

The handle casing 10 has an integral lug 43 for a carrying cord.

CLAIMS

1. An electric torch comprising two components which define a case, the case enclosing a bulb and a circuit and being adapted to house a battery power source, and which, in use, relative movement between the two components causes the circuit to be completed or broken to switch the torch ON or OFF, and a seal located between the two components to prevent the ingress of water into the case.

2. A torch as claimed in Claim 1 in which the first and second components overlap one another and a protective skirt covers the overlap.

3. A torch as claimed in Claim 1 or Claim 2 in which the circuit includes a disc shaped contact and a second contact whereby relative movement between the components causes the disc shaped contact and the second contact to contact one another to complete the circuit or to be spaced from one another to break the circuit.

4. An electric torch as claimed in any preceding claim in which the two components engage one another by means of co-operating screw threads so that rotation of one component relative to the other causes relative translational movement of the two components along the axis of rotation.

5. A torch as claimed in any preceding claim in which the two components are of plastics material.

6. An electric torch constructed and arranged substantially as herein specifically described with reference to the accompanying drawing

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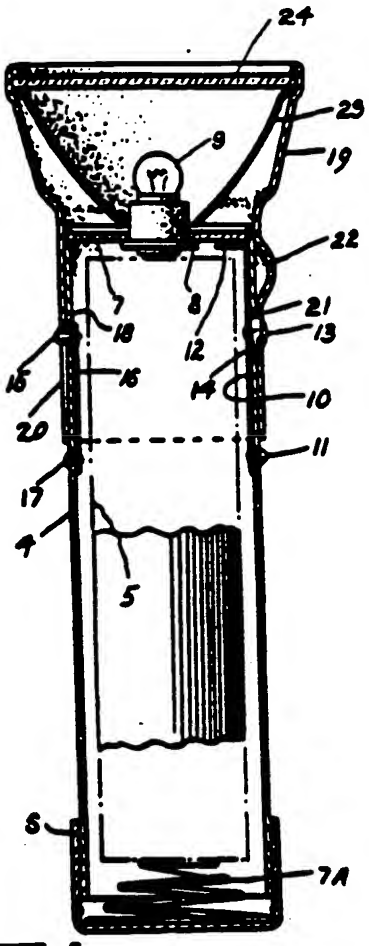

Fig. 1.

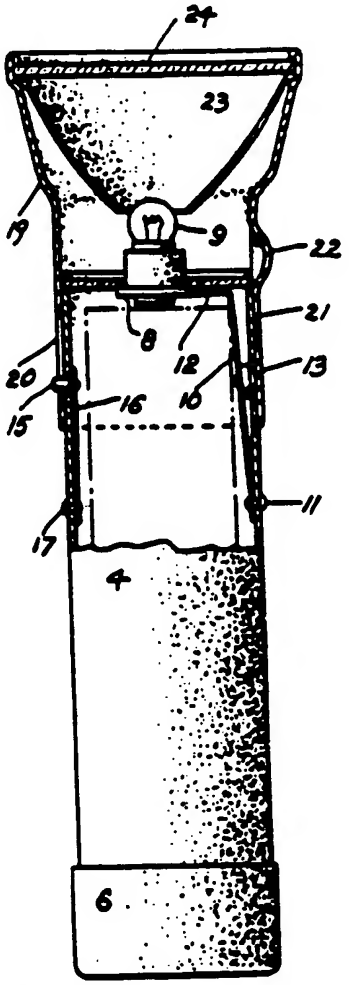

Fig. 3.

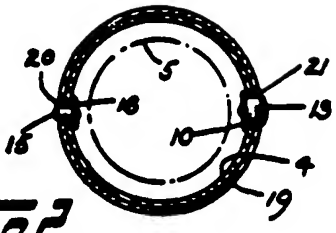

Fig. 2.